

Chemical Analysis Report

SO-DIST-2023-12-28-01

Florida DEP Laboratory
2600 Blair Stone Road
Tallahassee, FL 32399-2400
DOH Accreditation E31780

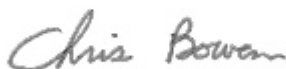
Event Description: **Algal Bloom Response -SOROC- Highlands**
Request ID: **RQ-2023-06-12-72**
Customer: **SO-DIST**
Project ID: **BLOOM-RESP**

Send Reports to:
FL Dept. of Environmental Protection
FLDEP South District Office
2295 Victoria Ave. Suite 364
Fort Myers, FL 33901-3381
Attn: John Barrington

For additional information please contact
Colin Wright, Ph.D.
Chris Bowen, B.S.
Marek Topolski, Ph.D.
Dr. rer. nat. Bettina Steinbock
Thekkekalathil Chandrasekhar, Ph.D, QA Officer
Phone (850) 245-8085

Certified by: Chris Bowen, Environmental Administrator

Date Certified: 11-JAN-2024 10:53



Case Narrative

Unless otherwise noted, all samples included in this report were received in accordance with protocols referenced in Chapter 62-160, Florida Administrative Code (F.A.C.). Results published in this report pertain only to the samples as submitted to, and received by the laboratory. All times in this report are adjusted to the applicable Eastern Time Zone (EST or EDT).

Results for the following analytical groups are included in this report: Nutrients and Pesticides.

Scientific notation may be used in reporting very large or small values. Values reported using scientific notation will take the form of the following example: 1.3E+03, which is equivalent to 1.3×10^3 or 1300.

Unless otherwise noted, analytical values for soil and sediment samples are reported on a dry weight basis, and analytical values for waste and tissue samples are reported on a wet weight basis.

Results for TNI accredited tests met requirements established by The NELAC Institute. A double asterisk (**) is used to indicate an analyte/matrix/method for which the laboratory is not TNI accredited by the Florida Department of Health Environmental Laboratory Certification Program or where accreditation for that field of testing is not applicable.

Any significant anomalies or deviations from established protocols are documented in Non-Conformance Reports, which, where appropriate, are included within this analytical report. Additional comments related to specific analytical tests may be included as remarks following the analytical results for each sample. Such comments and remarks are for informational purposes only and are not intended to convey judgement about the usability of the reported data.

A quality control report on the performance of the test method for the submitted samples is included. Uncertainty associated with the analytical results contained in this report can be estimated from the reported quality assurance results and from published quality control acceptance limits for each analytical test. Matrix quality control results (matrix spike recoveries and matrix sample precision) pertain only to the matrix sample tested and do not necessarily reflect test method performance for other samples.

Typical matrix quality control (QC) measurements may include matrix spike recovery, matrix spike duplicate recovery, matrix spike precision and matrix sample precision. Not all matrix QC results may be available or reportable; where they are not an explanation is provided. Typical reasons for unavailable QC results include, but are not limited to, a) insufficient matrix sample to perform some or all QC measurements; b) analyte concentration in the sample replicated was too low for a meaningful measurement of precision and c) analyte concentration in the matrix sample spiked was too high (relative to the amount of analyte spiked) for a meaningful measurement of recovery. Where matrix QC results are unavailable, other method performance metrics (e.g., LCS recovery, LCS precision, surrogate recovery) may be used to assess performance of the method. Comments explaining any missing QC measurements are not intended to convey any adverse conclusions about the quality of the reported data.

Precision is reported as relative percent difference unless otherwise noted.

Quality Control codes as defined below may be used in this report to indicate results that are associated with one or more quality control elements which did not fall within established test method criteria. Such results may be qualified as estimates using a J qualifier as required by 62-160 F.A.C. Explanations are included in the report for any results that were reported as estimates for other reasons.

QC Codes used in this report may include:

- LCS – Recovery for the batch Laboratory Control Sample (LCS) was outside existing control limits;
- MS – Recovery for the batch matrix spike (MS) was outside existing control limits;
- CCV – Recovery for a continuing calibration verification (CCV) standard was outside existing control limits;
- SUR – Recovery of a surrogate (SUR) for associated analytes was outside existing control limits;
- RPD – The precision, measured as relative percent difference (RPD), of batch replicate measurements was outside existing control limits;
- RSD – The precision, measured as relative standard deviation (RSD), of batch replicate measurements was outside existing control limits;
- SMP – Sample - used precision derived from replicate analyses of a sample;

The following data qualifiers are used, where applicable, in this report as specified in 62-160 F.A.C.

- A - Value reported is the mean of two or more determinations.
- B - Results based on colony counts outside the acceptable range.
- I - The reported value is between the laboratory method detection limit and the laboratory practical quantitation limit.
- J - Estimated value and/or the analysis did not meet established quality control criteria.
- K - Actual value is known to be less than value given.
- L - Actual value is known to be greater than value given.
- N - Presumptive evidence of presence of material.
- O - Sampled, but analysis lost or not performed.
- Q - Sample held beyond normal holding time.
- T - Value reported is less than the criterion of detection.
- U - Material was analyzed for but not detected. The reported value is the method detection limit for the sample analyzed.
- V - Analyte was detected in both sample and method blank.
- X - Too few individuals to calculate SCI value.
- Y - The laboratory analysis was from an unpreserved or improperly preserved sample. The data may not be accurate.
- Z - Colonies were too numerous to count (TNTC).

Quality control information from overflow laboratories may not be included in this report. Please refer to the associated report from the overflow laboratory for additional information.

Sample Location: Lake Placid

Collection Date/Time: 12/27/2023 11:14

Field ID: HAB-HC-122723-1114

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2458908	DEP SOP: NU-094-1	Color (true)	15		PCU	P439508	
2458909	EPA 350.1 Rev. 2.0	Ammonia-N	0.016		mg N/L	P439698	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.63		mg N/L	P439489	MS
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.016		mg N/L	P439611	
	EPA 365.1 Rev. 2.0	Total-P	0.024		mg P/L	P439604	
2458910	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	U	mg P/L	P439506	
2458911	EPA 8321B	Anatoxin-a	0.25	U	ug/L	P439395	
		Cylindrospermopsin	0.10	U	ug/L	P439394	
		Desmethyl microcystin LR	0.25	U	ug/L	P439394	
		Microcystin H1LR	0.25	U	ug/L	P439394	
		Microcystin HtyR	0.25	U	ug/L	P439394	
		Microcystin LA	0.13	I	ug/L	P439394	
		Microcystin LF	0.10	U	ug/L	P439394	
		Microcystin LR	0.25	U	ug/L	P439394	
		Microcystin LW	0.25	U	ug/L	P439394	
		Microcystin LY	0.10	U	ug/L	P439394	
		Microcystin RR	0.10	U	ug/L	P439394	
		Microcystin WR	0.50	U	ug/L	P439394	
		Neosaxitoxin	0.50	U	ug/L	P439395	
		Microcystin YR	0.25	U	ug/L	P439394	
		Saxitoxin	0.50	U	ug/L	P439395	
		Nodularin-R	0.10	U	ug/L	P439394	

Quality Assurance Report

Method Blank Results

Reference Method: DEP SOP: NU-094-1
Batch ID: P439508

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P439698

Component	Result	Code	Units
Ammonia-N	0.002	U	mg N/L

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P439489

Component	Result	Code	Units
Kjeldahl Nitrogen	0.080	U	mg N/L

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P439611

Component	Result	Code	Units
NO2NO3-N	0.004	U	mg N/L

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P439604

Component	Result	Code	Units
Total-P	0.002	U	mg P/L

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P439506

Component	Result	Code	Units
O-Phosphate-P	0.004	U	mg P/L

Reference Method: EPA 8321B
Batch ID: P439394

Component	Result	Code	Units
Cylindrospermopsin	0.10	U	ug/L
Desmethyl microcystin LR	0.25	U	ug/L
Microcystin H1LR	0.25	U	ug/L
Microcystin HtyR	0.25	U	ug/L
Microcystin LA	0.10	U	ug/L
Microcystin LF	0.10	U	ug/L
Microcystin LR	0.25	U	ug/L
Microcystin LW	0.25	U	ug/L
Microcystin LY	0.10	U	ug/L
Microcystin RR	0.10	U	ug/L
Microcystin WR	0.50	U	ug/L
Microcystin YR	0.25	U	ug/L
Nodularin-R	0.10	U	ug/L

Quality Assurance Report

Method Blank Results

Reference Method: EPA 8321B
Batch ID: P439395

Component	Result	Code	Units
Anatoxin-a	0.25	U	ug/L
Neosaxitoxin	0.50	U	ug/L
Saxitoxin	0.50	U	ug/L

Quality Assurance Report

Laboratory Control Sample Accuracy

Reference Method: DEP SOP: NU-094-1
Batch ID: P439508

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Color (true)	99.5		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P439698

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Ammonia-N	98.6		P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P439489

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Kjeldahl Nitrogen	109		P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P439611

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
NO2NO3-N	98.5		P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P439604

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total-P	104		P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P439506

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
O-Phosphate-P	98.6		P	90 - 110

Reference Method: EPA 8321B
Batch ID: P439394

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Cylindrospermopsin	87.0		P	40 - 150
Desmethyl microcystin LR	119		P	40 - 150
Microcystin H1LR	118		P	40 - 150
Microcystin HtyR	114		P	40 - 150
Microcystin LA	109		P	40 - 150
Microcystin LF	130		P	40 - 150
Microcystin LR	115		P	40 - 150
Microcystin LW	117		P	40 - 150
Microcystin LY	116		P	40 - 150
Microcystin RR	83.3		P	40 - 150
Microcystin WR	122		P	40 - 150
Microcystin YR	116		P	40 - 150
Nodularin-R	95.9		P	40 - 150

Quality Assurance Report

Laboratory Control Sample Accuracy

Reference Method: EPA 8321B
Batch ID: P439395

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Anatoxin-a	86.3		P	40 - 150
Neosaxitoxin	82.4		P	40 - 150
Saxitoxin	87.3		P	40 - 150

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P439698

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2458541	Ammonia-N	99.2	101	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P439489

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2458866	Kjeldahl Nitrogen	114	106	F/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P439611

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2458878	NO2NO3-N	96.5	97.5	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P439604

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2458909	Total-P	107	107	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P439506

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2458933	O-Phosphate-P	99.8	99.8	P/P	90 - 110

Reference Method: EPA 8321B
Batch ID: P439394

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2458571	Cylindrospermopsin	92.6	94.0	P/P	40 - 150
2458571	Desmethyl microcystin LR	123	118	P/P	40 - 150
2458571	Microcystin HiLR	116	126	P/P	40 - 150
2458571	Microcystin HtyR	122	123	P/P	40 - 150
2458571	Microcystin LA	109	114	P/P	40 - 150
2458571	Microcystin LF	135	139	P/P	40 - 150
2458571	Microcystin LR	108	118	P/P	40 - 150
2458571	Microcystin LW	127	129	P/P	40 - 150
2458571	Microcystin LY	115	123	P/P	40 - 150
2458571	Microcystin RR	85.9	91.3	P/P	40 - 150
2458571	Microcystin WR	121	126	P/P	40 - 150
2458571	Microcystin YR	118	130	P/P	40 - 150
2458571	Nodularin-R	96.2	96.0	P/P	40 - 150

Reference Method: EPA 8321B
Batch ID: P439395

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2458571	Anatoxin-a	79.9	82.2	P/P	40 - 150
2458571	Neosaxitoxin	55.4	58.5	P/P	40 - 150
2458571	Saxitoxin	60.9	66.7	P/P	40 - 150

Quality Assurance Report Precision

Reference Method: DEP SOP: NU-094-1
Batch ID: P439508

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2458940	Color (true)	1.74	Sample	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P439698

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2458541	Ammonia-N	1.60	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P439489

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2458866	Kjeldahl Nitrogen	4.54	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P439611

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2458878	NO2NO3-N	1.03	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P439604

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2458909	Total-P	0.744	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P439506

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2458933	O-Phosphate-P	0.0	Spike	P	0 - 20

Reference Method: EPA 8321B
Batch ID: P439394

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2458571	Cylindrospermopsin	1.54	Spike	P	0 - 30
2458571	Desmethyl microcystin LR	4.21	Spike	P	0 - 30
2458571	Microcystin HtIR	7.97	Spike	P	0 - 30
2458571	Microcystin HtyR	0.790	Spike	P	0 - 30
2458571	Microcystin LA	4.47	Spike	P	0 - 30
2458571	Microcystin LF	2.74	Spike	P	0 - 30
2458571	Microcystin LR	8.44	Spike	P	0 - 30
2458571	Microcystin LW	1.46	Spike	P	0 - 30
2458571	Microcystin LY	6.64	Spike	P	0 - 30

Quality Assurance Report Precision

Reference Method: EPA 8321B
Batch ID: P439394

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2458571	Microcystin RR	6.09	Spike	P	0 - 30
2458571	Microcystin WR	3.48	Spike	P	0 - 30
2458571	Microcystin YR	9.72	Spike	P	0 - 30
2458571	Nodularin-R	0.250	Spike	P	0 - 30

Reference Method: EPA 8321B
Batch ID: P439395

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2458571	Anatoxin-a	2.94	Spike	P	0 - 30
2458571	Neosaxitoxin	5.48	Spike	P	0 - 30
2458571	Saxitoxin	9.08	Spike	P	0 - 30

* Sample, spike and/or laboratory control sample precision (LCS) is reported.

Quality Assurance Report Surrogates

Lab Sample ID: 2458911

Field Sample ID: HAB-HC-122723-1114

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	Anatoxin-a 13C4	85.3	P	30 - 160
EPA 8321B	Microcystin LR ethyl-d5	115	P	30 - 160

Quality Assurance Report Calibration Verification

Reference Method: EPA 365.1 Rev. 2.0 dissolved

Run ID: A123447

Included Lab Sample IDs: 2458910

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
O-Phosphate-P	98.6	99.0	P/P	90 - 110

Reference Method: DEP SOP: NU-094-1

Run ID: A123449

Included Lab Sample IDs: 2458908

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Color (true)	100	100	P/P	90 - 110

Reference Method: EPA 8321B

Run ID: A123451

Included Lab Sample IDs: 2458911

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Cylindrospermopsin	102	101	P/P	50 - 160
Desmethyl microcystin LR	124	133	P/P	50 - 160
Microcystin H1IR	118	136	P/P	50 - 160
Microcystin HtyR	118	130	P/P	50 - 160
Microcystin LA	116	123	P/P	50 - 160
Microcystin LF	122	122	P/P	50 - 160
Microcystin LR	125	127	P/P	50 - 160
Microcystin LW	112	122	P/P	50 - 160
Microcystin LY	125	128	P/P	50 - 160
Microcystin RR	87.9	94.0	P/P	50 - 160
Microcystin WR	118	126	P/P	50 - 160
Microcystin YR	123	124	P/P	50 - 160
Nodularin-R	98.2	108	P/P	50 - 160

Reference Method: EPA 8321B

Run ID: A123452

Included Lab Sample IDs: 2458911

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Anatoxin-a	89.7	82.4	P/P	50 - 160
Neosaxitoxin	93.4	78.9	P/P	50 - 160
Saxitoxin	90.6	84.7	P/P	50 - 160

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A123475

Included Lab Sample IDs: 2458909

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	105	105	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A123503

Included Lab Sample IDs: 2458909

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
NO2NO3-N	99.5	99.0	P/P	90 - 110

Quality Assurance Report Calibration Verification

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A123546

Included Lab Sample IDs: 2458909

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total-P	102	101	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0

Run ID: A123548

Included Lab Sample IDs: 2458909

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Ammonia-N	98.9	97.8	P/P	90 - 110

* Pass/Fail determinations are made for each bracketing calibration verification check.

Control limits for initial calibration checks may be different from those for continuing checks, depending on method requirements.

Where they are different, both control limits are provided.

Quality Assurance Report Summary

Ref. Method	Analyte	LCS % Recovery	MS % Recovery		LCS	Precision	MS
						SMP	
DEP SOP: NU-094-1	Color (true)	99.5				1.74	
EPA 350.1 Rev. 2.0	Ammonia-N	98.6	99.2	101			1.60
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	109	114	106			4.54
EPA 353.2 Rev. 2.0	NO2NO3-N	98.5	96.5	97.5			1.03
EPA 365.1 Rev. 2.0	Total-P	104	107	107			0.744
EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	98.6	99.8	99.8			0.0
EPA 8321B	Anatoxin-a	86.3	79.9	82.2			2.94
	Cylindrospermopsin	87.0	92.6	94.0			1.54
	Desmethyl microcystin LR	119	123	118			4.21
	Microcystin H1LR	118	116	126			7.97
	Microcystin HtyR	114	122	123			0.790
	Microcystin LA	109	109	114			4.47
	Microcystin LF	130	135	139			2.74
	Microcystin LR	115	108	118			8.44
	Microcystin LW	117	127	129			1.46
	Microcystin LY	116	115	123			6.64
	Microcystin RR	83.3	85.9	91.3			6.09
	Microcystin WR	122	121	126			3.48
	Microcystin YR	116	118	130			9.72
	Neosaxitoxin	82.4	55.4	58.5			5.48
	Nodularin-R	95.9	96.2	96.0			0.250
	Saxitoxin	87.3	60.9	66.7			9.08

Reference Method Descriptions

Method	Description	Associated Samples
DEP SOP: NU-094-1	True Color measured at 450 nm (not valid for NPDES monitoring)	2458908
EPA 350.1 Rev. 2.0	Ammonia in aqueous matrices as mg N/L	2458909
EPA 351.2 Rev. 2.0	Total Kjeldahl Nitrogen in aqueous matrices	2458909
EPA 353.2 Rev. 2.0	Nitrite/Nitrate in aqueous matrices as mg N/L	2458909
EPA 365.1 Rev. 2.0	Total Phosphorus in aqueous matrices as mg P/L	2458909
EPA 365.1 Rev. 2.0 dissolved	Ortho-phosphate, dissolved, in filtered, aqueous matrices as mg P/L	2458910
EPA 8321B	Microcystins in water matrices by HPLC/MS/MS	2458911
EPA 8321B	Saxitoxin in water matrices by HPLC/MS/MS	2458911

Preparation and Analysis Log

Ref. Method	Received Date	Prep Date/Time	Prepared By	Analysis Date/Time	Analyzed By	Associated Samples
DEP SOP: NU-094-1	12/28/2023			12/28/2023 15:08	Anna M. Plaviak	2458908
EPA 350.1 Rev. 2.0	12/28/2023			01/08/2024 12:11	Ping Hua	2458909
EPA 351.2 Rev. 2.0	12/28/2023	12/28/2023 12:25	Simonne.V. Calhoun	01/03/2024 14:00	Samantha L Bates	2458909
EPA 353.2 Rev. 2.0	12/28/2023			01/03/2024 14:09	Fadila Guebre	2458909
EPA 365.1 Rev. 2.0	12/28/2023	01/05/2024 13:38	Adam P Silver	01/08/2024 12:43	Chandler E Cox	2458909
EPA 365.1 Rev. 2.0 dissolved	12/28/2023			12/28/2023 13:14	James L Waggeberby	2458910
EPA 8321B	12/28/2023	12/28/2023 11:00	Hana Lee	12/28/2023 12:19	Tae K Lee	2458911
	12/28/2023	12/28/2023 11:00	Hana Lee	12/28/2023 17:28	Tae K Lee	2458911